



**Plot2
Farm**

W006 - Spring wheat row spacing comparison

Objective: Compare effects of row spacing on the yield and quality of spring wheat.

Research support

Although minimal research on row spacing has been conducted recently, it is commonly believed that narrow row spacing is superior for attaining high yield. However, Lafond et al. (1996) identified that this may not be the case. Their research indicated that wider row spacing may maintain yield as compared to narrow spacing. As well, they indicated that wider row spacing may reduce root disease issues, increase response to soil placed Phosphorus (P), and hasten plant emergence.

This on-farm research protocol will help determine the effects of row spacing on spring wheat yield and quality on your farm under typical management.

Field Layout and Selection

Field layout will depend on the number of treatments selected. Review the Research Guide for the best practices on treatment design, choosing your trial and how it should be laid out.

Treatments

To follow good experimental protocol, treatments should be both replicated and randomized. For example, if you are testing 2 treatments, the order of those treatments change in each replication (see trial design below). In replication 1, treatment 1 precedes treatment 2, but in the second replication, treatment 2 precedes treatment 1. This reduces the effects of field variability on results. Take detailed notes to remember the order of treatment applications.

Treatment 1: 15" row spacing.

Treatment 2: 7.5" row spacing.

Replication 1	Treatment 1
	Treatment 2
Replication 2	Treatment 2
	Treatment 1
Replication 3	Treatment 1
	Treatment 2
Replication 4	Treatment 2
	Treatment 1

Additional Notes:

1. This protocol requires special action. If attaining the correct narrow row spacing requires 2 passes with the same machine, additional compaction will be seen on the narrow spacing treatments. This may affect germination. To account for this, a second pass must also be made on the wide row spacing with the seeding implement lifted out of work. Additionally, if a second pass is being implemented to acquire narrow (half width of wide row spacing) row spacing, Real-Time Kinematic (RTK) technology is required to achieve even row spacing across the entire pass. If RTK is not used, variability in results may be seen and the subsequent data will not be viable.
2. If the same seeding tool is not being used, different openers on the different seeding tools will confound the results making it impossible to determine the sole effects of row spacing.
3. All treatments will receive the same seeding rates, variety, fertilizer, seed treatments, herbicide, fungicide, pre-seed and harvest treatment.

References:

Lafond, G. P., Domitruk, D., Bailey, K. L., & Derksen, D. A. (1996). Effects of row spacing, seeding rate and seed-placed phosphorus on wheat and barley in the Canadian prairies. *Better Crops*, 80(4), 20-22.

